Vocational Education and Training in Australian Schools

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Abstract

While vocational subjects have always been part of the school curriculum, formal vocational education and training (VET) in the last two years of secondary education has been a policy focus for the last decade. In the Australian context, VET in schools *is defined as courses that lead to industry recognised qualifications under the Australian Qualifications Framework while at the same time contributing to the standard Year 12 certificate. The number of students doing such courses has increased dramatically and is now close to one in two. The article looks at some history, the characteristics of the courses, the success of the policy in terms of school retention and labour market outcomes, and remaining challenges.*

Introduction

This article discusses a major policy push in Australian secondary education – the introduction of recognised vocational education as part of the senior secondary certificate in the last two years of secondary education. By *recognised* we are referring to vocational education and training qualifications within the Australian Qualifications Framework. After some historical background I look at some of the characteristics of Vocational Education and Training (VET) in schools. This is followed by an assessment of how successful the program has been, with success defined by whether there has been an increase in Year 12 retention and by smooth transition into employment.

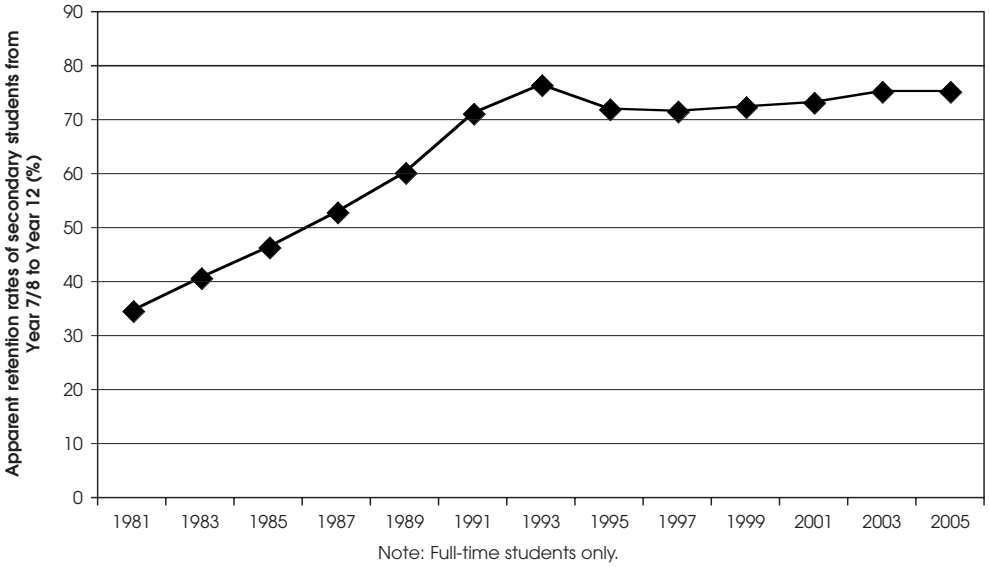
Historical background

Vocational education has been part of the Australian school curriculum far longer than I can remember. Alongside the reading, writing, arithmetic, history, geography, languages and the myriad of subjects that are characterised as 'academic' have been subjects of a more practical bent such as woodwork, accounting or bookkeeping, and home economics. These courses were within the school curriculum but were not recognised as part of the

VET sector. In addition, there have been specialised high schools such as the technical high schools and agricultural high schools the focus of which was the acquisition of skills that prepared students for a wide range of occupations, particularly in the traditional trades.

While the big issues in education seem to be universal and invariant over time – issues of academic standards, relevance to the 'modern' world, equity-policy prescriptions change. For example, in the 1970s there were significant concerns that the technical high schools stratified the student population to such an extent that students going to such schools had virtually no chance of going on to university. This was due to a range of factors including perceptions of students by teachers that discouraged such aspirations and practical things such as the range of subjects taught at these schools. These concerns led to the abolition of the technical schools (Committee of the Enquiry into Education in South Australia 1971 (the Karmel report).

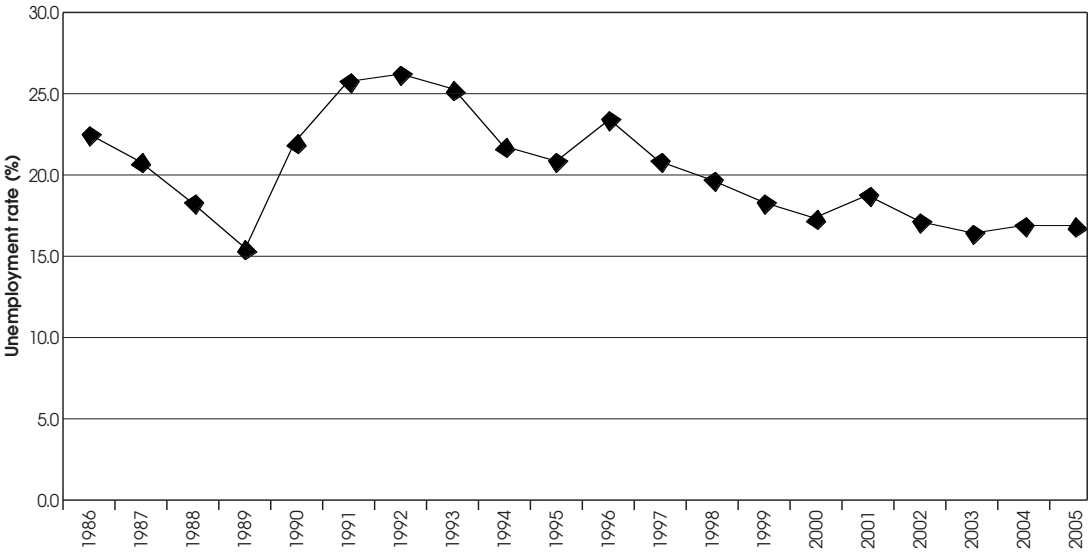
For around the last ten years or so there has been renewed interest in the concept of vocational education in a schooling environment. There is never a single factor driving policy changes but I would proffer two major factors behind the push for a greater emphasis on vocational education at school. The first is that it became clear that the schooling system did not suit everyone. While Year 12 retention increased dramatically over the 1980s it has stalled since the beginning of the 1990s (Figure 1). It should also be kept in mind that aggregate figures mask much variation, and the retention rates in some areas are very much lower.



Sources: 1981, 1991 & 2001 figures: Australian Bureau of Statistics (ABS) Schools, 2001, cat. no. 4221.0; 1987 & 1997 figures: ABS, Schools, 2002, cat. no. 4221.0; 1983, 1993 & 2003 figures: ABS, Schools, 2003, cat. no. 4221.0; 1989 & 1999 figures: ABS, Schools, 2004, cat. no. 4221.0; 1985, 1995 & 2005 figures: ABS, Schools, 2005, cat. no. 4221.0.

Figure 1: Apparent Year 12 retention rates (per cent)

The second point is that youth unemployment was a big issue, with the rate exceeding 25 per cent in the early 1990s. If school retention is low, but early school leavers can walk into a decent full-time job then perhaps there is no issue. But this was not the case (Figure 2). So it was clear that the academic paradigm was failing a very significant proportion of the youth cohort and it is not surprising that there was a push to strengthen vocational education at school. The Australian Education Council's review of young people's participation in post-compulsory education and training in 1990 (Finn 1991) is the seminal policy document behind the VET in schools push.



Note: Unemployment rate equals unemployed persons as a per cent of the labour force.

Source: ABS Labour Force, Australia, Detailed - Electronic Delivery, cat no 6291.0.55.001, table 03a.

Figure 2: Unemployment rates for persons 15-19 years (per cent)

The implementation of school VET programs was supported by a series of goals for national collaboration set out in the Adelaide Declaration on National Goals for Schooling in the Twenty-first Century (Ministerial Council on Education, Employment, Training and Youth Affairs 1999). This declaration contains a range of references to elements of vocational education and training in schools, as well as links between the education and training sector, business and industry. Of particular relevance is the third goal of this declaration, which states that 'Schooling should be socially just, so that all students have access to the high quality education necessary to enable the completion of school education to Year 12 or its vocational equivalent and that provides clear and recognised pathways to employment and further education and training' (Ministerial Council on Education, Employment, Training and Youth Affairs 1999). In 2002, in response to these national goals, the Ministerial Council's Taskforce on Vocational Education and Training in Schools proposed a new framework for

vocational education in schools, with an emphasis on improving the transition of all young people from school to work and further study. To provide impetus for this push, the Commonwealth provided $20 million between 1997 and 2001, and a similar amount between 2002 and 2004, to support the expansion of VET opportunities in schools. This Commonwealth contribution complemented state and territory funding for VET in Schools (Department of Education, Science and Training 2003). More recently, the Commonwealth has funded the Australian Technical Colleges (Department of Education, Science and Training 2007).

Over the 1990s the vocational education and training system itself underwent major reform. In the early 1990s what had been a State based system became a national system, underpinned by the establishment of the Australian National Training Authority and a Commonwealth-States agreement. One of the thrusts of these reforms was a change in emphasis so that the VET system became industry led rather than educationally driven. The practical implication of this was that curriculum was largely replaced by training packages built around competencies specified by industry.[1] This was within the framework of the Australian Qualifications Framework, with Vocational Education and Training qualifications ranging from certificate I through certificate IV to diplomas and advanced diplomas. The alignment between school and VET has never been clear but generally Certificate III is roughly equivalent to completion of Year 12.[2]

The import of these developments can be seen in the language in which the emphasis on VET in schools is couched. The official definition of what is commonly referred to as 'VET in Schools' is where school students undertake recognised vocational education and training as part of the senior secondary certificate. This definition can be somewhat complicated. It is not a single option because, under the VET in Schools arrangements, students can undertake VET subjects or VET courses or school-based apprenticeships or traineeships (an apprenticeship or traineeship is a legal contract of training between the individual, an employer and the training provider, with the apprentice or trainee being a paid employee). When undertaking VET subjects or courses as part of the senior secondary certificate, the program may or may not include structured workplace learning. The exceptions to this are New South Wales and Tasmania, where structured workplace learning is mandatory. School-based apprenticeships and traineeships, on the other hand, always require formal engagement with the workplace and structured learning, since they involve paid employment and a training contract (see Woods 2005).

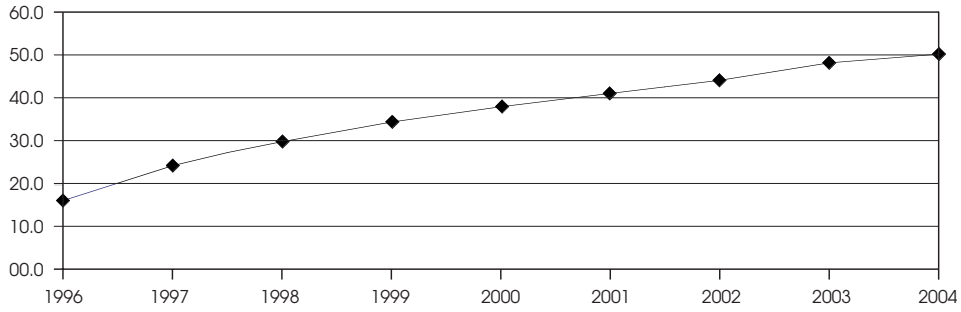
School VET programs are usually offered to students in Year 11 and Year 12, occasionally to students in Year 10. There are widespread differences across the various states and territories in the delivery of these programs, and the range offered.

New versions of traditional school curricula, specifically information technology, hospitality and office administration, remain the most popular subject areas studied (Polesel et al. 2004), accounting for half of all school VET enrolments (Malley et al. 2001). However, particularly in regional areas, more locally relevant school VET programs are also offered. These include Certificate I & II in Seafood Industry in aquaculture areas such as in the Eyre Peninsula, and Certificate I & II Food Processing (wine) in wine regions across Australia (Johns et al. 2004).

Characteristics of VET in schools

As noted at the outset, the official version of VET in schools covers recognised VET undertaken as part of the senior secondary certificate. It includes school-based apprentices and trainees, and contains subjects both with and without structured workplace learning. However, it needs to be remembered that the official definition does not cover the full extent of vocational education at school. First, there are standard subjects outside the formal VET framework, such as book keeping, not to mention other school based activities such as work experience and career education. Second, quite large numbers of students undertake formal VET, but not as part of their school curriculum. Indeed, NCVER apprentice and trainee data show that in 2005 there were 5 249[3] commencing apprentices and trainees who were also school students, but these apprenticeships and traineeships are not school based. Typically, these are associated with part-time employment.

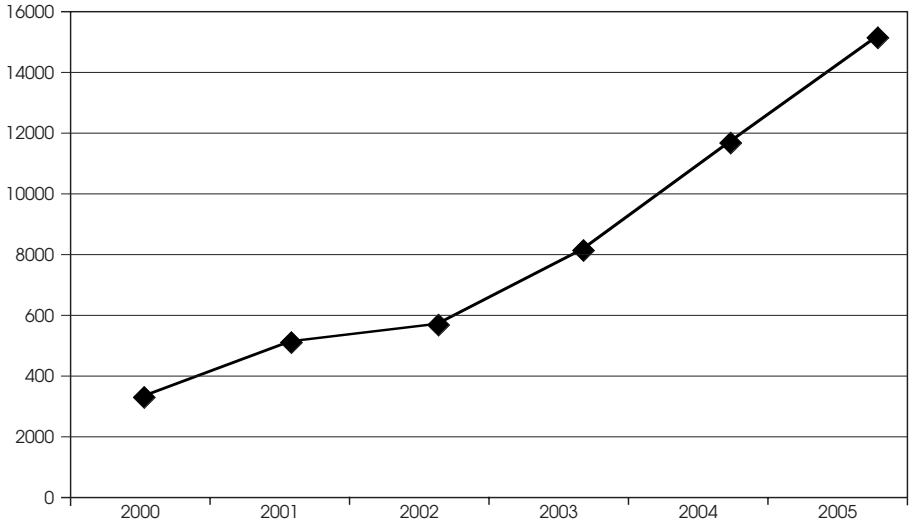
The rest of this section is about VET in schools as defined officially. Before we look in more detail, it is worth noting that we are looking at a very large number of students indeed. In 2004 (latest data available) there were 212,000 students undertaking VET in schools.



Source: Number of VET in Schools students: Ministerial Council for Education, Employment, Training and Youth Affairs (MCEETYA) Transition from Schools Taskforce, National data on participation in VET in Schools programs and school-based New Apprenticeships for the 2004 school year. Number of full-time Year 11 and 12 students: Australian Bureau of Statistics, Schools Australia, cat. no. 4221.0, 1996-2004.

Figure 3: Percentage of Year 11 and Year 12 students undertaking VET in school, 1996-2004

In the middle 1990s around 15 per cent of students were undertaking VET in schools, growing to around 50 per cent in more recent years. The number of school based apprentices and trainees (a subset of the students undertaking VET in schools) has also grown rapidly, but the numbers are relatively small (Figure 4).



Source: NCVER National Apprentice and Trainee Collection, based on June 2006 estimates.

Figure 4: Numbers of school based apprentices and trainees, 2000–2005

Table 1 show the fields of study covered. The data come from the NCVER VET in schools collection and includes only the subjects that are accredited within the VET sector. For comparison purposes, the fields of study for young VET students who are outside the school sector are also included.

There are some significant differences between programs offered in and outside school. The most notable is that the subjects offered at school tend to be those with close links to pre-VET in schools vocational subject areas: information sciences (cf computing), management and commerce, (cf bookkeeping), food, hospitality and personal services (cf home economics or cooking). The other point to stand out is that in school the courses are dominated by certificate IIs, with considerable numbers of certificate Is. By contrast, the non-school courses have many more certificate IIIs (the certificate III could reasonably be considered to be the cornerstone of the VET system; for example, the traditional trade qualification is a certificate III, and certificate IIIs are by far the most popular Australian Qualification Framework qualification). So it is apparent that the in school version of VET is not a simple slice of the VET system.

The same sort of picture is obtained comparing school based apprentices and trainees with their peers who have left school. Table 2 shows apprenticeship and traineeship commencements classified by qualification level and Table 3 by training package.

	Boys			Girls		
	16-17 years, school VET	16-17 years, non-school VET	18-19 years, post-school VET	16-17 years, school VET	16-17 years, non-school VET	18-19 years, post-school VET
Total students	**60,095**	**73,110**	**109,954**	**59,559**	**58,975**	**85,625**
Field of education	**%**	**%**	**%**	**%**	**%**	**%**
Natural and Physical Sciences	0.0	0.2	0.4	0.0	0.3	0.8
Information Technology	22.9	6.6	6.5	9.9	2.5	1.7
Engineering & Related Technologies	17.2	31.0	32.8	1.9	2.4	2.9
Architecture & Building	11.2	15.2	15.0	0.3	0.4	1.3
Agriculture, Environmental & Related Studies	4.1	6.0	5.0	3.0	3.2	2.0
Health	0.0	1.7	1.7	0.5	1.8	4.2
Education	5.5	0.9	0.2	4.8	2.1	0.7
Management and Commerce	13.6	10.1	13.5	29.7	29.8	37.0
Society and Culture	3.7	3.7	4.1	6.5	10.8	15.5
Creative Arts	3.7	2.3	3.4	4.8	4.0	5.2
Food, Hospitality & Personal Services	12.6	9.8	10.2	32.1	26.2	18.8
Mixed Field Programmes	5.3	11.4	6.5	6.7	14.8	8.6
Subject only – no field of education	0.0	1.1	0.8	0.0	1.6	1.4
Total	100.0	100.0	100.0	100.0	100.0	100.0
Qualification level						
Diploma or higher	0.0	2.3	14.7	0.1	3.1	20.6
Certificate IV	0.3	2.6	9.1	0.3	3.3	12.1
Certificate III	10.5	33.2	45.6	9.9	27.1	33.0
Certificate II	58.2	32.8	13.8	70.4	44.9	17.7
Certificate I	20.4	13.2	4.0	9.9	5.6	2.4
Secondary education	0.0	1.3	1.0	0.0	1.9	1.6
Non award courses	0.4	3.0	2.7	0.1	2.3	2.2
Other education	10.1	10.4	8.2	9.3	10.2	8.9
Subject only - no qualification	0.0	1.1	0.8	0.0	1.6	1.4
Total	100.0	100.0	100.0	100.0	100.0	100.0

Source:National VET Provider Collection 2004 (unpublished), in publication scope and at school (VET in Schools) scope

Table 1: Course information in 2004 for a range of VET students

	School based (all ages)	Not school based (19 years and under)
Certificate I	2.3	0.0
Certificate II	72.0	20.5
Certificate III	25.2	76.7
Certificate IV or diploma	0.5	2.7
Total	100.0	100.00

Source: NCVER apprenticeship and traineeship collection, March 2006

Table 2: Apprenticeship and traineeship commencements, 2005, classified by qualification level (per cent)

	School based (all ages)	Not school based (19 years and under)
WRR - Retail	5,900	13,900
THH - Hospitality	2,200	9,100
BSB - Business Services *(does not include BSA)	1,300	8,900
AUR - Automotive Industry Retail, Service and Repair	1,000	8,800
MEM - Metal and Engineering Industry	600	7,000
BCG - General Construction	500	8,000
RTE - Rural Production	400	1,100
WRH - Hairdressing	400	4,300
SRO - National Outdoor Recreation Industry	300	500
CHC - Community Services	300	2,600
ICA - Information Technology	300	600
RTF - Amenity Horticulture	200	1,900
LMF - Furnishing Industry	100	2,000
MTM - Australian Meat Industry	100	2,900
WRB - National Beauty	100	400
FNB - Financial Services (Superseded by FNS)	100	300
SRS - National Sport Industry	100	100
FDF - Food Processing Industry	100	1,300
BCP - Plumbing and Services	100	1,500
UTE - Electrotechnology Industry	100	5,600
All other packages	700	9,500
Non Training Package	400	3,000
Total	15,200	93,500

Source: NCVER apprenticeship and traineeship collection, March 2006
Note: Training packages are ordered by importance among the school based apprentices and trainees. The training packages cover all those in which the apprentices or trainees not at school exceed 2,000.

Table 3: Apprenticeship and traineeship commencements, 2005, classified by training package

As can be seen from the two tables, the apprenticeships and traineeships are a very particular subset of apprenticeships and traineeships. First, they tend to be at the Certificate II level, not at the standard Certificate III level that is the standard for the apprenticeship and traineeship system. Second, they are concentrated in the service sectors (retail, hospitality and business services) and contribute very little to the traditional apprenticeship areas. Only in automotive do the numbers approach four figures.

How successful has VET in schools been?

There is considerable literature around looking at the success of VET in schools. It includes broad government evaluations (Evans 2005, House of Representatives Standing Committee on Education and Training 2004, MCEETYA Taskforce on Vocational Education (VET) in schools 2001, Allen consulting Group 2000, WA Department of Education and Training 2002, for example) or government evaluations on specific aspects such as: structured workplace learning (PhillipsKPA 2005), the cost (Allen Consulting Group 2003), accreditation and delivery (Queensland Studies Authority 2004), ACACA 2004),or its place in the syllabus (Queensland Board of Senior Secondary School Studies 2003,). Others have looked at implementation issues (Porter 2006, Smith 2004), students with a disability (Little 2005, McColl and Nitschke

2002), indigenous students (Hill and Helme 2005), girls (Butler and Woolley 2005), rural students (Johns et al. 2004), industry links (Taylor 2004, OCPET 2004,), pedagogy (Tennant and Yates 2003), transitions after school (Polesel and Teese 2002. Davis and Searle), and adults (OCPET 2005)[4].

My reading of this research is that the VET in schools program has got pretty favourable press, although there are many issues to be resolved around issues of resources, the challenges of involving industry in a meaningful way, and fitting into school structures that have arisen from the demands of and university entrance. For example, Bert Evan's strategic evaluation (which largely drew from Polasel et al 2005) concluded, at least in respect of NSW: (1) the diversity and relevance of VET curriculum is providing opportunities in the Higher School Certificate for students following all post school pathways including university, further VET, apprenticeships and traineeships, and employment; (2) VET in Schools improves student retention; (3) VET students are more work-ready than other school leavers; (4) VET in schools improves students' transition from school to work.

Similarly a report on a specific aspect – pathways from rural schools (Johns et al. 2004) – found that school VET courses intended as a pathway to local employment appear to be successful in retaining students who otherwise may have left school early, and are assisting the transition from school to work. As with many of the reports, it indicated room for improvement suggesting 'that pathways from school based VET programs in the primary industry area need to be more flexible to improve access to training and participation, particularly in remote areas'.

My own research (Anlezark, Karmel and Ong 2006) supports these general findings in some ways but not in others. First, it must be kept in mind that VET in schools programs encompass a huge variety of options and experiences, and have been implemented in many different ways and targeted at many different groups. Following on from this it is clear that the program has been attractive to those with weaker academic backgrounds, with socio-economic background also playing a role, as can be seen from the following table which presents the results of a logistic regression based on Longitudinal Survey of Australian Youth data. This data set has the great advantage of having a rich set of background variables and measures of academic ability.

Thus in considering the impact of the program we must keep in the mind that the participants are self selected and certainly not a random sample of the student population.

My second point is that one must be very careful in concluding that the program has been successful based on the perceptions of those who have done the program. Certainly, the fact that participants are positive about the program is *prima facie* evidence that the program is successful, but that is not to say that the program has achieved its aims at a global level. In particular, on the basis of my own investigations (Anlezark, Karmel and Ong 2006), I am rather suspicious of the finding that the program has improved school retention based on the views of students who are still at school. The problem is a methodological one: one cannot conclude anything about school retention by asking those who are still at school.[5]

Student characteristics	Predicted probability %	Student characteristics	Predicted probability %
Gender		**Parental education**	
Male	27.5	Did not complete secondary school	29.1
Female	25.2	Completed secondary school/apprenticeship only	27.7
School type		TAFE	27.8
Government	27.6	University	20.7
Catholic	22.7	**Academic achievement (assessed)**	
Independent	26.7	Low score	31.5
Location where attended school		Lower middle score	25.9
NSW	32.1	Upper middle score	21.7
VIC	21.6	High score	13.5
QLD	27.9	**Engagement with school**	
SA	28.4	Low score	26.7
WA	24.0	Medium score	26.1
TAS	18.9	High score	22.3
NT	28.7	**Aspiration (asked in year 10)**	
ACT	22.8	Intended to do Year 12	24.9
Area of residence		Intended to leave before Year 12	32.4
Metropolitan	24.5	**Perceived attitude of peers**	
Non-metropolitan	28.9	Very poor	26.3
Ethnicity		Poor	26.3
English speaking background	26.0	Good	26.3
Non-English speaking background	30.6	Very good	26.1
Parental occupation		**Self-perceived academic ability**	
Manual	28.6	Low score	30.2
Clerical	25.9	Lower middle score	26.4
Managerial	21.2	Upper middle score	22.6
Professional	28.6	High score	16.6

Source: Anlezark, Karmel and Ong (2006)

Table 4: Predicted probability of doing VET in Year 11, holding other variables constant

Before describing my approach it is worth reflecting on the aggregate Year 12 data (Figure 2). Clearly, there has been no dramatic (or even noticeable) increase in the apparent Year 12 retention rate over the period that VET in schools grew so dramatically, so on the face of it a null hypothesis of 'no VET in schools effect' looks likely.[6] Of course, the period was one of improving economic conditions (making it more attractive to leave school early) and thus it is possible that retention rates would have decreased without the VET in schools program.

Our approach was to use the Longitudinal Survey of Australian Youth data (the Y98 cohort, with the typical student in Year 11 in 2000)[7] and model the probability of proceeding from Year 10 to Year 11, and Year 11 to Year 12 separately, controlling for a wide range of background characteristics (including earlier academic achievement). This immediately throws up a problem because almost all VET in schools is at Years 11 and 12 and yet many early school leavers leave after Year 10 (and so have not had the opportunity to experience it). We addressed this problem by modelling the Year 10 to Year 11 as a function of the intensity of VET at the school level; the idea being that Year 10 students at risk of leaving school would be more likely to stay at school where there was high provision of VET, assuming that VET in schools did affect retention.[8] The Year 11 to Year 12 retention was simply modelled on the basis of whether the student did or did not do VET at Year 11.

The results were fairly clear cut: VET in schools appeared to have improved Year 10 to Year 11 retention but led to a decline in Year 11 to Year 12 retention. The overall effect on Year 10 to Year 12 was slightly negative.

	Year 10 to Year 11 retention %	Year 11 to Year 12 retention %	Year 11 to Year 12 equivalent retention %	Year 10 to Year 12 retention %	Year 10 to Year 12 equivalent retention %
All males					
• as observed	96.3	91.2	91.6	87.8	88.2
• counterfactual (VET not offered at Year 11)	95.9	92.1	92.4	88.3	88.6
• impact of school VET (% points)	+0.4	-0.9	-0.8	-0.5	-0.4
All females	97.6	93.7	94.8	91.4	92.5
• as observed	97.4	94.0	95.0	91.6	92.5
• counterfactual (VET not offered at Year 11)	+0.2	-0.3	-0.2	-0.2	0.0
• impact of school VET (% points)					

Source: Anlezark, Karmel and Ong (2006)

Table 5: Impact of school VET on retention rates

While these results are at variance with some of the other evaluations, I do not think they are that surprising. First, the decline in Year 11 to Year 12 retention must be seen against the fact that the Year 11 cohort would have been less academic than would have previously been the case, given that VET in schools had led to an increase in Year 10 to Year 11 retention. Second, school retention was not the only motivation for the program; the other main motivation was the desire to improve transition to the labour market.

This second dimension was the focus of the second part of our research and was where we found our strongest results. Unequivocally, those students who undertook VET in schools at Year 11, but left school after Year 11, had a much easier transition that their peers who left school after Year 11 but had not undertaken VET at Year 11. The effect is particularly strong for young women.[9]

Highest school level completed	Boys		Difference	Girls		Difference
	School VET	No school VET		School VET	No school VET	
	%	%	%	%	%	%
2001						
Year 11	78.9	67.6	+11.3	63.7	48.9	+14.8
Year 10	–	76.2		–	55.0	
2000						
Year 10	–	68.0		–	46.7	

Source: Anlezark, Karmel and Ong (2006)

Table 6: Predicted probabilities of successful outcomes in 2001 and 2000 by gender and highest school level completed

In the table above we have included as a comparison group those who left after Year 10. The point to be emphasised is that we are talking about transitions, so 2001 is the year after the Year 11 leavers have left school, but two years after the Year 10 leavers. While Year 10 leavers almost have as good outcomes two years after leaving school as the Year 11 leavers one year after leaving school, their transition has been much more difficult. My speculation is that the most likely reason for the speedy transition of the Year 11 leavers who have undertaken VET in school is that they have picked up employment as a result of the work placement component of the program. This would explain why the Year 11 to Year 12 retention of this group is lower than their peers not undertaking VET in schools.

[10] The point that the VET in school affects transitions rather than, necessarily, longer term outcomes can be seen by looking at the success of the Year 11 leavers two years after leaving school. (Table 3).

Highest school level completed	Boys		Difference	Girls		Difference
	School VET	No school VET		School VET	No school VET	
	%	%	%	%	%	%
Year 12	88.1	90.2	-2.1	87.9	88.9	-1.0
Year 11	91.4	88.6	+2.8	83.6	78.4	+5.2
Year 10	–	92.4		–	81.3	

Source: Anlezark, Karmel and Ong (2006)

Table 7: Predicted probabilities of successful outcomes in 2002 by gender and highest school level completed

As can be seen, VET in school still has a positive effect for the Year 11 leavers, but the effects in 2002 are smaller than in 2001. Of interest is that there do not appear to be positive effects for the Year 12 leavers who undertook VET in schools.

A final aspect to be considered is whether VET in schools promotes VET after school. To some extent it must; students commencing an apprenticeship or traineeship at school surely have a reasonable chance of continuing with them. However, it is

difficult to be definitive here because the proportion of the school leaving cohort going to VET has always been very large. Table 8 suggests that post-school VET is very common for those who have done VET in school.[11] But it is also very high for the Year 10 leavers, most of whom have not been exposed to VET in schools. It is also worth noting that relatively few apprenticeships and traineeships are commenced while at school.

Pathways in 2002	Year 12[1]		Year 11[2]		Year 10[3]
	School VET	No school VET	School VET	No school VET	No school VET
Girls	n = 766	n = 2574	n = 81	n = 155	n = 231
TAFE	27.5%	14.2%	27.2%	23.2%	23.4%
Apprenticeship/traineeship	14.5%	7.3%	25.9%	23.9%	31.6%
Total post-school VET for girls	**42.0%**	**21.5%**	**53.1%**	**47.1%**	**55.0%**
Boys	n = 658	n = 2286	n = 146	n = 175	n = 252
TAFE	22.0%	14.8%	14.4%	20.0%	12.3%
Apprenticeship/traineeship	21.4%	10.9%	54.1%	37.7%	56.0%
Total post-school VET for boys	**43.4%**	**25.7%**	**68.5%**	**57.7%**	**68.3%**

Notes: [1]One year post-school; [2]Two years post-school; [3]Three years post-school.
Source: Anlezark, Karmel and Ong (2006)

Table 8: Proportion in VET in 2002 by highest school level completed and school VET participation

We also matched field of study for those students we could identify as having continued with VET after school. The idea was to see whether VET in schools had set students on a particular pathway. While our sample size was relatively small, the results were reasonably clear cut: for boys there was a positive association but for girls it was anything but, with girls avoiding the VET subjects they had undertaken at school.

Of course, this analysis is based on data a few years old now, and the level of provision of VET in schools has further increased. A task for the future is to repeat the analysis with a later cohort of students.

Conclusion

VET in schools would have to be one of the larger education policy developments in recent times. Not often do you have an innovation that grows so spectacularly in the number of persons affected. On the whole the development has been very positive: it has broadened the choices available to young persons and clearly for some it has provided a pathway that was not previously available. The views of stakeholders are generally positive. In concrete outcomes the story is a little mixed. It appears to have a very positive impact on the transition for early school leavers, at least for those leaving after Year 11. While it may have been the factor for some individuals completing 12 years of school overall it does not seem to have increased the overall

Year 12 retention rate; my speculation is that part of the reason for this is its success in smoothing the transition to employment.

This policy development, however, is far from complete. The various evaluations have pointed to implementation issues and the philosophy of providing school students with industry required competencies is not without tension. First, the level of what is provided at school is at the low end of what industry wants and, secondly, the VET in schools subjects largely build on the traditional subjects. In some cases industry remains a little sceptical that what is learned at school is a substitute for competencies that alternatively would be learnt after school. One could also challenge the wisdom of concentrating on industry competencies rather than more broadly based general vocational education training which can act as a foundation for a large variety of future jobs. The recent Australian Technical Colleges (and similar State government initiatives), with their emphasis on apprenticeships and traineeships, is another element to be considered. So to sum up: the policy has been very successful in a number of ways but there is plenty of scope for further development.

Notes

[1] The introduction of training packages has provoked considerable argument within the VET sector. Training packages, developed by industry, are a set of nationally endorsed standards, guidelines and qualifications for training, recognising and assessing people's skills. Proponents argue that they leave the teaching process open while detractors argue that the training packages are too prescriptive. Wheelahan (2003, 2004) has been critical of training packages.

[2] It is easy to become embroiled in argument here. Some argue that comparisons between certificates and year of school are not valid because their purpose is different and considerations of academic difficulty are irrelevant. However, it is interesting to note that wage equations (based on a human capital framework) suggest that the wage rates of those with a Certificate III or Year 12 are similar (see, for example, Ryan 2002).

[3] Based on June 2006 estimates.

[4] This brief literature review is restricted to publications from 2002. Any research before this would be a little premature, given that the program was in its growth phase in the late 1990s. Barnett and Ryan (2005) is also a useful overview of the literature.

[5] This is what appears to drive Polesel et al's very positive conclusions in this regard. The methodological issue is analogous to asking the survivors of a medical intervention whether the intervention was successful. What about those who died?

[6] We did, however, make use of the variation in patterns across states and very tentatively concluded that there is weak evidence that VET in Schools has led to an increase in Year 10 to Year 11 retention (Karmel, Anlezark and Ong 2006, p 17). Our diffidence lies in a very high correlation between the VET in Schools variable and a time trend, making it difficult to attribute cause.

[7] Participation in school VET programs was defined by students' self reporting that they took subjects at technical and further education or VET subjects or as part of an apprenticeship or traineeship. The questions were asked of 8218 students.

[8] We estimated the intensity of provision from the data. Thus our model suffers from measurement error which could lead to an understatement of the effect of the school VET variable.

[9] The outcome variable 'success' is defined as full-time work or education/ apprenticeship or traineeship. Thus the 'unsuccessful' comprise those in only part-time work, or are not employed and not studying.

[10] Our analysis is relatively simplistic in that it focuses on the characteristics of individuals, not the characteristics of the VET program. This aspect is the subject of Lamb and Vickers (2006).

[11] This table does not control for individual characteristics, and we know the VET in schools group is self-selected.

References

Allen Consulting Group (2000) *Review of the ANTA VET in Schools Program: Final Report to the Australian National Training Authority*, ANTA, Brisbane.

Allen Consulting Group, Deloitte Touche Tohmatsu and National Centre for Vocational Education Research (2003) *The Cost of VET in Schools: An Analysis of the Costs of Delivering VET in Schools Including an Analysis of Cost Efficiencies*, DEST, Canberra.

Anlezark, A., Karmel, T. and Ong, K. (2006) *Have School Vocational Education and Training Programs Been Successful?*, NCVER, Adelaide.

Australasian Curriculum, Assessment and Certification Authorities (2004) *ACACA VET Report: VET in Senior Secondary Certificates*, ACACA, Wayville, SA.

Australian Education Council Review Committee (1991) *Young People's Participation in Post-compulsory Education and Training (T B Finn, chair)*, AGPS, Canberra.

Barnett, K. and Ryan, R. (2005) *Lessons and Challenges: Vocational Education in Schools – Research Overview*, NCVER, Adelaide.

Butler, E. and Woolley, R. (2005) *Getting Real: Young Women and Girls, Working Futures, VET and VET in Schools*, Security4Women, Melbourne.

Committee of Enquiry into Education in South Australia (1971) *Education in South Australia: Report of the Committee of Enquiry into Education in South Australia 1969-1970 (Peter Karmel, chair)*, Government Printer, Adelaide.

Davis, J. and Searle, J. (2001) *VET in the VCE: Destination Survey 2001,* VET in Schools Centre, Gordon Institute of TAFE, Geelong.

Department of Education, Science and Training 2003, *The Cost of VET in Schools: An Analysis of the Costs of Delivering VET in Schools Including an Analysis of Cost Efficiencies*, DEST, Canberra.

Department of Education, Science and Training 2007, *Annual Report 2005-2006*, DEST, Canberra.

Evans, B. (2005) *Strategic Evaluation of Vocational Education and Training in Schools in New South Wales: Establishing the Value for Students, Employers and the Community of Vocational Education and Training in Schools Qualifications*, NSW Board of Vocational Education and Training, Sydney.

Hill, A. and Helme, S. (2005) 'VET in schools for Indigenous students: 'hands on', 'default', or promising?', *International Journal of Training Research*, vol.3, no.1, pp. 1-22.

House of Representatives Standing Committee on Education and Training (2004), *Learning to Work: Report on the Inquiry into Vocational Education in Schools*, House of Representatives Publishing Unit, Canberra.

Johns, S., Kilpatrick, S., Loechel, B. and Prescott, L. (2004) *Pathways From Rural Schools: Does School VET Make a Difference?,* NCVER, Adelaide.

Committee of the Enquiry into Education in South Australia, (1971) *Education in South Australia. Report of the Committee of the Enquiry into Education in South Australia, 1969-1970 chaired by Professor Peter Karmel*, Government of South Australia, Specialty Printers Pty Ltd, Adelaide, February 1971.

Lamb, S. and Vickers, M. (2006) *Variations in VET Provisions Across Australian Schools and their Effects on Student Outcomes*, Research report, Australian Council for Educational Research, Melbourne.

Little, T-L. (2005) *Improved VET Outcomes for People With a Disability: A BVET Commissioned Project: Final Report – June 2005*, DETNAC, Sydney.

Malley, J., Keating, J., Robinson, C. and Hawke, G. (2001), *The Quest for a Working Blueprint: VET in Australian Schools,* NCVER, Adelaide.

MCEETYA Taskforce on Vocational Education and Training (VET) in Schools (2001) *Report of the MCEETYA Taskforce on Vocational Education and Training (VET) in Schools*, MCEETYA, Carlton South, Victoria.

Ministerial Council on Education, Employment, Training and Youth Affairs (1999), *Adelaide Declaration on National Goals for Schooling in the Twenty-first Century*, MCEETYA, Carlton South, Victoria.

Nitschke, D. and McColl, M. (2002), *Vocational Education and Training in Schools: Pathway Planning for Students With Disabilities*, Ministerial Advisory Committee: Students with Disabilities, Adelaide, 2002.

Phillips/KPA (2005), *Quality of Structured Workplace Learning, DEST, Canberra.*

Polesel, J., Teese, R., Lamb, S., Helme, S., Nicholas, T. and Clarke, K. (2005) *Destination and Satisfaction Survey of 2004 HSC VET Students in New South Wales: Final Report*, NSW Dept of Education and Training, Sydney.

Polesel, J., Helme, S., Davies, M., Teese, R., Nicholas, T. and Vickers, M. (2004) *VET in Schools: A Post-compulsory Perspective*, NCVER, Adelaide.

Polesel, J. and Teese, R. (2002) *Transitions From the VET in Schools Program: The 2000 Year 12 Cohort*, Dept of Education and Training, Melbourne.

Porter, J. (2006) *What Makes Vocational Training Programs in Schools Work?: A Study of New South Wales and Queensland Schools*, NCVER, Adelaide.

Queensland Board of Senior Secondary School Studies (2003) *VET in Senior Secondary Syllabuses: A Discussion Paper*, Queensland Board of Senior Secondary School Studies, Brisbane.

Queensland Studies Authority (2004) *Education and Training Reforms for the Future VET in Schools Project: Final Report*, Queensland Studies Authority, Spring Hill, Queensland.

Ryan, C. (2002) *Individual Returns to Vocational Education and Training Qualifications: Their Implications for Lifelong Learning,* NCVER, Adelaide.

Smith, E. (2004) Vocational education and training in schools in Australia: what are the consequences of moving from margins to mainstream?, *Journal of Vocational Education and Training*, v. 56, no. 4, p. 559-578.

Tasmanian Dept of Education, Office of Post-Compulsory Education and Training (2004) *A Summary of Advice on VET in Schools and Articulation*, extracted from 2004 training demand information provided to the Office of Post-Compulsory Education and Training (OPCET) as industry advice, Dept of Education, Hobart.

Tasmanian Dept of Education, Office of Post-Compulsory Education and Training (2005), *The Local Area! The People! The Comfort Zone!: The Motivations of Adults in VET in School Programs*, OPCET, Hobart.

Taylor, A. (2004) *Entering Industry: A Case Study of Links Between a School Vocational Program and the Building and Construction Industry*, NCVER, Adelaide.

Tennant, M. and Yates, L. (2003) *Changing Pedagogy: Vocational Learning and Schools*, OVAL Research, Sydney.

Western Australia. Dept of Education and Training (2002) *Review of Vocational Education and Training in Schools 2002,* Dept of Education and Training, Perth.

Wheelahan, L. (2003) Global trends and local bends: Australian VET developments, *Journal of Adult and Continuing Education*, vol.9, no.1, pp. 32-50.

Wheelahan, L. (2004) What are the alternatives to training packages. Paper presented to 7th AVETRA Conference, Canberra, 17-19 March.

Woods, D. (2005) *Young People and Vocational Education and Training Options: At a Glance*, NCVER, Adelaide.